

WHAT IS CLAIMED:

sub a1
1. A process for providing a concentrate of vegetable protein comprising:

- a) applying a pressure of from about 400 to 800 pounds per square inch (psi) to an initial solution/dispersion of vegetable protein and associated vegetable solids;
- b) providing or adding CO₂ at the elevated pressure to form carbonic acid (H₂CO₃) in the solution/dispersion;
- c) heating the solution/dispersion, resulting in an increase in pressure;
- d) adding additional CO₂ to the solution dispersion to reduce the pH of the solution/dispersion;
- e) holding the pressurized and heated solution/dispersion;
- f) depressurizing the solution/dispersion; and
- g) removing solid precipitate which has a higher concentration of protein than the initial solution/dispersion.

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2. The process of claim 1 wherein said initial solution dispersion comprises a solution or dispersion of soy solids.

3. The process of claim 2 wherein said soy solids comprise a material selected from the group consisting of meal, flour and flake.

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4. The process of claim 1 wherein said vegetable protein and associated vegetable solids is neutralized before step a).

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5. The process of claim 1 wherein the concentration of protein in the solid precipitate of step g) has a protein concentration of at least 90% by total weight of solids.

6. The process of claim 2 wherein the concentration of protein in the solid precipitate of step g) has a protein concentration of at least 90% by total weight of solids.

7. The process of claim 3 wherein the concentration of protein in the solid precipitate of step g) has a protein concentration of at least 90% by total weight of solids.

8. The process of claim 1¹⁵ wherein the protein is soy protein and the concentration of soy protein in the solid precipitate of step g) has a protein concentration of at least 90% by total weight of solids.

9. The process of claim 2 wherein the pH in step d) is reduced to between 4.2 and 4.8.

10. The process of claim 7 wherein the pH in step d) is reduced to between 4.2 and 4.8.

11. The process of claim 2 wherein holding time in step e) is for between 10 and 60 minutes.

12. The process of claim 11 wherein the holding time is at a temperature between 30 and 75 degrees Centigrade and a pressure between 400 and 1200 psi.

13. The process of claim 2 wherein the pH in step d) is reduced to between 4.2 and 5.0.

14. The process of claim 1¹⁵ wherein the pH in step d) is reduced to between 4.2 and 5.0.

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